UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
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August 6, 2010

Chief, Rulemaking and Directives Branch
Division of Administrative Services
U.S. Nuclear Regulatory Commission
Mail Stop TWB-05-B01M
Washington, D.C. 20555-0001

RE: EPA Review and Comments
Draft Environmental Impact Statement (DEIS) for the
GE-Hitachi Global Laser Enrichment LLC Facility to
Construct, Operate, and Decommission a
Laser-Based Uranium Enrichment Facility
CEQ No. 20100229

Dear Sir:

The U.S. Environmental Protection Agency (EPA) reviewed the subject Draft Environmental Impact Statement (DEIS) pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA), and Section 309 of the Clean Air Act. The purpose of this letter is to inform you of the results of our review, and our detailed comments are enclosed.

The proposed action is for GE-Hitachi Global Laser Enrichment LLC (GLE) to construct, operate, and decommission a laser-based uranium enrichment facility at a site near Wilmington, North Carolina, on existing GE property. The enriched uranium produced by the facility would be used to manufacture fuel to supply nuclear power reactors. An NRC license would be required to authorize GLE for 40 years.

The DEIS discusses the proposed action and alternatives, including 22 alternative sites and the no-action alternative. The DEIS states that none of the alternative sites were determined to be environmentally preferable to the Wilmington site. The proposed technology is separation of isotopes by laser excitation (SILEX).

Based on EPA's review of the DEIS, the document received a rating of EC-2, meaning that the EPA review identified environmental concerns and that further information is needed. (A summary of EPA's rating definitions is enclosed.) In particular, EPA recommends that the FEIS include updated information regarding management of radioactive wastes, and potential impacts to water resources and wetlands. Air emissions from construction equipment, historic preservation impacts and coordination with nearby residents and environmental justice communities are additional concerns.

Since appropriate on-site storage of spent uranium hexafluoride (UF_6) is necessary to prevent environmental impacts, the FEIS should provide a thorough consideration of impacts resulting from such storage. The DEIS notes that planned onsite storage pads will hold cylinders of waste for 10 years, with the possibility of constructing additional pads for a total capacity of 9000 cylinders.

The disposal operation considered in the DEIS is the conversion of the depleted UF_6 to its oxide form triuranium octaoxide (U_3O_8) due to the chemical stability of the latter. This would involve transporting depleted UF_6 (tails) to either a DOE-owned or licensed commercial conversion facility, and transporting the resulting U_3O_8 to a DOE site or a licensed commercial low-level waste disposal facility. The FEIS should clarify the anticipated length of time between the storage of depleted UF_6 at the on-site storage pads and its conversion to U_3O_8.

In regard to historical and community resource concerns, we note that coordination with the State Historic Preservation Office (SHPO) regarding plans to develop procedures to protect a Middle Woodlands prehistoric site are ongoing. The Final EIS (FEIS) should contain updated information regarding this coordination. Our detailed comments are enclosed.

Thank you for the opportunity to comment on this DEIS. We look forward to reviewing the FEIS. If you have any questions or need additional information, please contact Ramona McConney of my staff at (404) 562-9615.

Sincerely,

Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

Enclosures: EPA Review and Comments
Summary of Rating Definitions and Follow Up Action

EPA Review and Comments Regarding
Draft Environmental Impact Statement (DEIS) for the
GE-Hitachi Global Laser Enrichment LLC Facility to
Construct, Operate, and Decommission a Laser-Based Uranium Enrichment Facility

Alternatives

A suite of alternatives was evaluated in the DEIS, including the no-action alternative, alternative industrial sites, sources of low-enriched uranium, and alternative technologies for enrichment. In addition, alternatives for the disposition of depleted uranium hexafluoride (UF_6) were evaluated. A license is required from the NRC in order for GLE to possess and use special nuclear material, source material, and byproduct material at the proposed facility.

Supporting infrastructure

The supporting infrastructure at the site includes additional new facilities: access roads, parking, laboratories, and operations and administrative buildings. Diesel generators would be installed as a backup power source. This construction should be considered part of the project, and the impacts of these actions are direct project impacts.

We note that preconstruction activities are scheduled to begin in 2011, and that NRC considers preconstruction activities in the context of cumulative impacts. In accordance with NEPA, the EPA considers these activities as part of the project, and not a separate action.

Waste management

The facility will have three storage areas for natural and depleted UF_6 cylinders: product, in-process and tails (depleted) cylinders. Appropriate on-site storage of depleted UF_6 and other radioactive waste is necessary to prevent environmental impacts. The FEIS should clarify whether a waste minimization plan has been developed to reduce the amount of waste generated from the enrichment process. The disposal operation considered in the DEIS is the conversion of the depleted UF_6 to its oxide form U_3O_8, due to the chemical stability of the latter.

The FEIS should clarify the anticipated length of time between the storage of depleted UF_6 at the on-site storage pads and its conversion to U_3O_8. The DEIS states that the conversion process would take place at either a DOE-owned or licensed commercial conversion facility. The potential facilities mentioned in the DEIS are under construction or planned for locations in Ohio, Kentucky and New Mexico. The FEIS should consider transportation concerns for transferring the tails to the conversion facility, and transporting the U_3O_8 to a disposal site. The DEIS states that the disposal of the U_3O_8 at a DOE site or a licensed commercial low-level waste disposal facility would be viable options.

Nonradioactive hazardous waste storage and disposal should be in accordance with the Resource Conservation and Recovery Act (RCRA), and planning should take place to minimize the amount of hazardous waste generated from facility operations. The FEIS should also clarify whether a

waste minimization plan has been developed to reduce the amount of hazardous waste, and to what extent recycling and reuse are feasible.

Air impacts

The DEIS states that the proposed facility would not use any continuous combustion activities during operation, and therefore criteria pollutant and hazardous air pollutant (HAP) emission rates are expected to be small. In addition, ozone precursor emissions are expected to be small.

Preconstruction and construction traffic, along with the operation of construction equipment are projected to cause an increase in particulate matter having a mean diameter of 10 micrometers or less (PM_{10}), exceeding the air quality standard (page 4-108). Best management practices should be used to control dust and other particulates to the maximum extent feasible.

Greenhouse Gases (GHGs)

EPA recommends that the discussion of mitigation in the FEIS consider opportunities to reduce Greenhouse Gases (GHGs) and other air emissions during construction and operation of the facility. Specifically, energy efficiency should be a consideration in the construction and operation of facility buildings, equipment, and vehicles. Equipment and vehicles that use conventional petroleum (e.g., diesel) should incorporate clean diesel technologies and fuels to reduced emissions of GHGs and other pollutants and should adhere to anti-idling policies to the extent possible. Alternate fuel vehicles (e.g., natural gas, electric) are also possibilities.

CEQ's Draft NEPA Guidance on Consideration of the Effects of Climate Change and GHGs is a helpful reference: http://www.whitehouse.gov/sites/default/files/microsites/ceq/20100218-nepa-consideration-effects-ghg-draft-guidance.pdf

Estimated Risks

Potential accident scenarios were analyzed in the DEIS. The particular contaminants of concern from accidents are UF_6 liquids and vapors. GLE has committed to a number of measures to prevent contaminant releases resulting from a fire or other emergency. The DEIS evaluates accident risks to workers, the public, and the environment, and states that terrorism risk assessment is not included in the scope of this document.

Wetlands and Streams

Some jurisdictional and isolated wetlands occur within the corridor for the access roads, and may require a Section 404 permit or Isolated Wetland Permit for impacts. A more precise determination of the potential type and extent of impacts to wetlands is needed, and the DEIS states that analysis will occur as facility design plans are refined. The FEIS should include updated information, if available.

The FEIS should identify the least environmentally damaging practicable alternative (LEDPA) and demonstrate how this alternative has avoided wetlands and other water impacts to the

maximum extent possible. If wetlands will be impacted, then the FEIS should include a conceptual compensatory mitigation plan that demonstrates that these losses in ecological functions will be replaced.

Surface Water

The DEIS states that process wastewater effluent would be discharged at an existing outfall during operation, increasing the site's process wastewater volume by around 7 percent. Liquid radioactive waste will be pretreated before transfer to the existing wastewater treatment facility.

Stormwater runoff would collect in a detention basin before discharge, and would be regulated by a National Pollutant Discharge Elimination System (NPDES) permit. Stormwater runoff from the UF_6 cylinder storage pads would collect in a lined retention pond. If monitoring demonstrates a lack of radioactivity, pond effluent would be discharged to the storrmwater detention basin and ultimately to the effluent channel.

We note that the stormwater collected for the UF_6 cylinder storage pad is expected to have no more than trace amounts of radiological contaminants, and the liner is expect to limit infiltration to groundwater. Discharge at site outfalls would be from process and sanitary wastewater. Some portion of these effluents may potentially infiltrate the Peedee sand aquifer. The DEIS states that treatment and monitoring are expected to result in no significant contaminant concentrations in the effluent channel.

Existing production wells will provide groundwater for process water and potable uses. A small amount of increased drawdown is expected, without significant effect on flow directions, water quality or availability for offsite users. A groundwater monitoring plan would be developed after the facility is constructed. The FEIS should provide further detail regarding the geographic extent of the drawdown area and when the groundwater monitoring plan will be available for review. There should also be a discussion of drinking water standards, and data regarding monitoring and sampling of area wells.

Plans for operation of the facility include a closed-loop cooling tower, with discharge to the existing Wilmington Final Process Lagoon Treatment Facility (FPLTF), and the FEIS should clarify the estimated quantity of water required for its operation.

Endangered Species

The DEIS states that Federal and State-listed threatened and endangered species occur in New Hanover County and could potentially occur at the project site. Updated information and data regarding consultations with the U.S. Fish and Wildlife Service and should be included in the FEIS.

Historic Preservation

We appreciate the discussion of cultural and historic resources in the DEIS. The DEIS states that consultation with the SHPO regarding plans to develop procedures to protect a Middle

Woodlands prehistoric site (31NH801) are ongoing, and the FEIS should include an update of these coordination activities.

Environmental Justice (EJ)

The DEIS states that impacts from the project to EJ communities would be small to moderate. The DEIS examined demographics using 2000 Census Data. Nearby local residents are vulnerable to noise, aesthetics, odors, fugitive dust or localized air pollutants and light. In addition, increased truck traffic and roadway congestion can affect residents and those living along nearby access roads. Potential mitigation measures to address some of the traffic related impacts should be considered.

The DEIS identified potential EJ communities within a 4-mile radius of the project site. Three Census block groups that contain minority populations are located within the vicinity of the proposed GLE site. Two block groups contain minority populations that exceed the county average by more than 20 percent and one Census block group also exceeds the State Average by more than 20 percent. In addition, two of these Census block groups also have minority populations that exceed 50 percent of the total population.

In one Census block group, the low-income population was more than 20 percentage points higher than both the State and county average. However, the Census block group within the immediate vicinity of the proposed GLE Facility contains a minority population comprising 18.3 percent of the total population, while the low-income population accounts for seven percent of the residents within the block group.

The EPA believes it is important to meaningfully engage the affected communities within the vicinity of the site throughout this project regarding issues that have the potential to impact them. Ongoing community engagement is especially important given that construction, operation and decommissioning of the facility may take place over a period of 40 years or more and could potentially result in adverse community impacts. The FEIS should clarify whether a community advisory group currently exists, whether complaints have been received from the community regarding the existing facility, and how those issues have been addressed.

The NRC and the applicant should make every effort to ensure that residents nearby have an opportunity to receive training and compete for jobs at the facility. In addition, efforts to work with and improve schools within the vicinity of the project site should also continue, to ensure that existing and future generations are being prepared to fill those jobs.

SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION*

Environmental Impact of the Action

LO-Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the Draft EIS sate, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1-Adequate

The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alterative and those of the alternatives reasonably available to the project or action. No further analysis or data collecting is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information

The draft EIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the Draft EIS.

Category 3-Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640 Policy and Procedures for the Review of the Federal Actions Impacting the Environment